

What is claimed is:

1. A system comprising:
a hollow tube, including a proximal end and a distal end and a lumen extending therebetween, wherein the hollow tube is shaped and sized to permit insertion into a lumen of a flexible tubular infusion catheter, and wherein the hollow tube is stiffer than the infusion catheter such that the hollow tube acts as a stylet for guiding the catheter through tissue to a target location.
2. The system of claim 1, in which the lumen of the hollow tube is filled with a fluid, and in which the proximal end of the hollow tube is configured to be closed to retain the fluid within the lumen of the hollow tube.
3. The system of claim 1, further including a fluid reservoir that is coupled to the proximal end of the hollow tube.
4. The system of claim 3, wherein the hollow tube and the fluid reservoir are sized to hold enough fluid to fill the lumen of the infusion catheter after withdrawal of the hollow tube from the lumen of the infusion catheter.
5. The system of claim 1, further including a flexible tubular infusion catheter including a proximal end and a distal end and a lumen extending therebetween, the lumen of the infusion catheter sized and shaped to permit insertion of the hollow tube therein.
6. The system of claim 5, in which the proximal end of the infusion catheter sealingly engages around the hollow tube when a portion of the hollow tube is located with the lumen of the infusion catheter.
7. The system of claim 6, in which the proximal end of the tubular catheter includes a clamp that closes around the hollow tube.

8. The system of claim 6, in which the lumen of the catheter includes a diameter having at least two different values at different locations along the lumen of the catheter.
9. The system of claim 1, in which the hollow tube includes a remotely detectable locator.
10. The system of claim 9, further including a positioning system that permits location of the locator.
11. The system of claim 10, further including an image-guided surgical workstation coupled to the positioning system.
12. The system of claim 1, further including means for temporarily sealing the proximal end of the hollow tube to retain fluid within the hollow tube.
13. The system of claim 1, further including a cap sized and shaped to cap off a proximal end of the hollow tube.
14. The system of claim 1, further including a plug sized and shaped to plug a proximal end of the hollow tube.
15. The system of claim 1, further including a clamp sized and shaped to pinch off a portion of the hollow tube.
16. A system comprising:
 - a flexible tubular infusion catheter including a proximal end and a distal end and a lumen extending therebetween, the lumen of the infusion catheter sized and shaped to permit insertion of the hollow tube therein;
 - a hollow tube, including a proximal end and a distal end and a lumen extending therebetween, wherein the hollow tube is shaped and sized to permit insertion into a lumen of the flexible tubular infusion catheter, and wherein the hollow tube is stiffer than

the infusion catheter such that the hollow tube acts as a stylet for guiding the catheter through tissue to a target location; and

wherein at least a portion of an inner diameter of the flexible infusion catheter snugly seals to an outer diameter of the hollow tube to prevent air from passing therebetween as the hollow tube is withdrawn from the flexible infusion catheter.

17. The system of claim **16**, in which a proximal portion of the inner diameter of the flexible infusion catheter snugly seals to the outer diameter of the hollow tube, and in which a distal portion of the inner diameter of the flexible infusion catheter more loosely encircles the outer diameter of the hollow tube than the proximal portion.

18. A method comprising:

loading a hollow-tube stylet with fluid;

inserting the stylet into a lumen of a flexible infusion catheter to provide enough stiffening to the catheter to guide the catheter through living tissue toward a target;

directing the stylet and the catheter through tissue to the target; and

withdrawing the stylet from the catheter, in which the withdrawing includes releasing the fluid from the stylet into the lumen of the catheter to avoid air from occupying the lumen of the catheter upon withdrawal of the stylet.

19. The method of claim **18**, further including temporarily closing a proximal end of the stylet, after the loading the stylet with fluid, to assist in retaining the loaded fluid within the stylet.

20. The method of claim **19**, further including opening the proximal end of the stylet after the inserting the stylet into the lumen of the catheter and before the withdrawing the stylet, to release fluid from the stylet into lumen of the catheter.

21. The method of claim **18**, further including infusing a fluid agent through the catheter after the withdrawing the stylet.